ANNALS OF THE NEW YORK ACADEMY OF SCIENCES

Volume 509
November 19, 1987

FACTOR VIII/vWF AND PLATELET FORMATION AND FUNCTION IN HEALTH AND DISEASE

A TRIBUTE TO MARION I. BARNHART[a]

Editors and Conference Organizers
JEANNE M. LUSHER, EBERHARD F. MAMMEN, LOWELL E. MCCOY, AND DANIEL A. WALZ

CONTENTS

Dedication ix

A Tribute to Marion I. Barnhart. *By* W. H. SEEGERS xi

Part I. Normal and Pathologic Megakaryocytic Development, Maturation, and Function

Regulation of Megakaryocytopoiesis by Thrombopoietin. *By* T. P. MCDONALD 1

Megakaryocyte Ultrastructure: Its Relationship to Normal and Pathologic Thrombocytopoiesis. *By* D. ZUCKER-FRANKLIN, C. STAHL, and P. HYDE 25

Proliferation and Maturation of Human Megakaryocytes *in Vitro*. By B. W. GRANT, L. SOLBERG, W. NICHOLS, and K. G. MANN 34

Multivectorial Analysis of Megakaryocytic Differentiation. *By* A. NAKEFF 41

Part II. Factor VIII/von Willebrand Factor

Factor VIII/von Willebrand Factor Replacement Therapy: Problems and Challenges. *By* L. M. ALEDORT 49

Factor VIII/von Willebrand Factor: Structure and Function. *By* T. S. ZIMMERMAN 53

[a]This volume is the result of a conference entitled Factor VIII/vWF and Platelet Formation and Function in Health and Disease: A Tribute to Marion I. Barnhart, held at Wayne State University, Detroit, Michigan, on November 21-22, 1986.

Endothelial Cell Processing of von Willebrand Proteins. *By* Y. KAWAI and R. R. MONTGOMERY 60

Vasopressin Analogues: Their Role in Disorders of Hemostasis. *By* P. M. MANNUCCI, D. ALTIERI, and E. FAIONI..... 71

Production of Recombinant Coagulation Proteins. *By* G. A. VEHAR..... 82

Factor VIII Inhibitors: Etiology, Characterization, Natural History, and Management. *By* J. M. LUSHER 89

Part III. Platelet-Vessel Wall Interaction

Adhesion of Blood Platelets to Isolated Components of the Vessel Wall. *By* J. J. SIXMA, P. F. E. M. NIEVELSTEIN, W. P. M. HOUDIJK, H. VAN BREUGEL, G. HINDRIKS, and P. G. DE GROOT..... 103

Role of von Willebrand Factor in Platelet Vessel-Wall Interactions. *By* D. MEYER, E. FRESSINAUD, K. S. SAKARIASSEN, H. R. BAUMGARTNER, and J. P. GIRMA..... 118

Macromolecules That Link Platelets following Vessel Wall Injury. *By* J. HAWIGER 131

Regulation of Prostaglandin Synthesis in Human Vascular Cells. *By* B. B. WEKSLER 142

Clinical Implications of the Protein C/Protein S System. *By* P. C. COMP..... 149

Part IV. Platelet Pathology

Views of the Platelet Cytoskeleton at Rest and at Work. *By* J. G. WHITE..... 156

The Platelet Membrane Glycoprotein IIb/IIIa Complex: Structure, Function, and Relationship to Adhesive Protein Receptors in Nucleated Cells. *By* D. R. PHILLIPS, L. A. FITZGERALD, I. F. CHARO, and L. V. PARISE 177

Acquired Disorders of Platelet Function. *By* L. A. HARKER..... 188

Acute Thrombocytopenia and Thrombosis: Heparin-Induced Thrombocytopenia and Thrombotic Thrombocytopenic Purpura. *By* J. G. KELTON and W. G. MURPHY..... 205

Index of Contributors..... 223